

What is claimed is:

5           1.       An automatic insulin pump comprising:

an injector having a syringe for containing insulin therein, and a piston inserted into the rear end of the syringe for providing the syringe with insulin discharge pressure;

10           a housing having an injector receiving space formed in an appropriate position thereof, the injector receiving space having a partition wall formed at the rear end thereof;

a rotary shaft having a non-circular section and a predetermined length;

power supply means for rotating the rotary shaft at a predetermined speed;

15           a push plate assembly for providing the piston with ahead power by pushing the piston, the push plate assembly having a disk part having a male screw formed on the outer circumferential surface thereof and a coupling hole axially coupled with the rotary shaft at the central portion thereof to allow for forward and backward movement of the rotary shaft, which passes through the coupling hole; and

20           a hollow cylindrical type push plate case inserted into the injector receiving space of the rear end of the syringe, for the piston to pass therethrough, the push plate case having a female screw formed on the inner circumferential surface thereof to be coupled with the male screw of the disk part for allowing the disk part to carry out a spirally forward and backward movement.

25           2.       The automatic insulin pump according to claim 1, wherein the front

end of the injector receiving space restricts the front end of the syringe and is limited by a separable cap, and the rear end of the injector receiving space is limited by the partition wall restricting the rear end of the push plate case, and

wherein the partition wall has idle-rotation preventing saws, and the push plate case has idle-rotation preventing saws formed at the rear end thereof and engaging with the idle-rotation preventing saws of the partition wall.

3. The automatic insulin pump according to claim 1, wherein the piston has a hollow cylindrical body having the closed front end and the opened rear end, and

wherein the push plate assembly includes: the disk part; a hollow cylindrical type idle rotation sleeve protruding from the surface of a side of the disk part; and a hollow cylindrical type fixed sleeve inserted into the outer circumferential surface of the idle rotation sleeve to carry out the idle rotation, the outer circumferential surface of the fixed sleeve being fixed to the inner circumferential surface of the rear end portion of the piston.

4. The automatic insulin pump according to claim 3, wherein the idle rotation sleeve has a hole for allowing for diameter contraction of the idle rotation sleeve and a locking protrusion for preventing separation of the idle rotation sleeve, and the fixed sleeve has a hole for allowing for diameter contraction of the fixed sleeve and a locking protrusion for preventing separation of the fixed sleeve.

5        5.        The automatic insulin pump according to claim 3, wherein the housing has string holding means formed at a proper position thereof to allow a patient to hang a string on his or her neck.

6.        The automatic insulin pump according to any one of claims 1 to 5, further comprising a wrench for allowing for a manual operation of the coupling hole.

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